In the Claims

Please cancel claims 1-16 and add the following new claims 17-30.

1. (Canceled).
2. (Canceled).
3. (Canceled).
4. (Canceled).
5. (Canceled).
6. (Canceled).
7. (Canceled).
8. (Canceled).
9. (Canceled).
10. (Canceled).
11. (Canceled).
12. (Canceled).
13. (Canceled).
14. (Canceled).
15. (Canceled).
16. (Canceled).
17. (New) A method for isolating and purifying nucleic acids and/or oligonucleotides from a biological sample, said method comprising:

    (a) disrupting the biological sample;

    (b) removing protein and insoluble components from said disrupted sample, leaving a residue;

    (c) adding an aqueous solution of potassium acetate to said residue and subsequently separating non-soluble components from the aqueous solution;

(d) mixing said aqueous solution of potassium acetate from which non-soluble components have been separated with an alcoholic solution containing a detergent;

(e) incubating said mixed solution;

(f) obtaining the supernatant of said mixed solution;

(g) contacting and incubating said supernatant with a silicon dioxide support material to produce a silicon dioxide bound fraction and a soluble fraction; and

(h) isolating purified nucleic acids and/or oligonucleotides from said soluble fraction.

18. (New) The method as claimed in claim 17, wherein said alcoholic solution comprises isopropanol and an ionic detergent.

19. (New) The method as claimed in claim 17, wherein said alcoholic solution comprises at least one ionic detergent at a concentration of 0.5 % to 10% (w/v) in 100 % strength alcohol.

20. (New) The method as claimed in claim 17, wherein said aqueous solution of potassium acetate of step (c) comprises 1 M to 6 M potassium acetate.

21. (New) The method as claimed in claim 20, wherein said aqueous solution of potassium acetate of step (c) comprises 2 M to 4 M potassium acetate.

22. (New) The method as claimed in claim 17, wherein said silicon dioxide support material is a suspension of silicon dioxide or silica gel.

23. (New) The method as claimed in claim 17, wherein said silicon dioxide support material is washed at least once with acetone after step (g) and prior to step (h).

24. (New) The method as claimed in claim 17, wherein said purified nucleic acids and/or oligonucleotides of step (h) contain less than 100 U/µg endotoxin.

B'

25. (New) The method as claimed in claim 24, wherein said purified nucleic acids and/or oligonucleotides of step (h) contain less than 10 U/µg plasmid DNA endotoxin.

Sub C1

26. (New) A method of transfecting eukaryotic or prokaryotic cells with nucleic acids or oligonucleotides, said method comprising:

(a) isolating and purifying nucleic acids and/or oligonucleotides from a biological sample by the steps of:

(1) disrupting the biological sample;

(2) removing protein and insoluble components from said disrupted sample, leaving a residue;

(3) adding an aqueous solution of potassium acetate to said residue and subsequently separating non-soluble components from the aqueous solution;

(4) mixing said aqueous solution of potassium acetate from which non-soluble components have been separated with an alcoholic solution containing a detergent;

(5) incubating said mixed solution;
obtaining the supernatant of said mixed solution;

(7) contacting and incubating said supernatant with a

silicon dioxide support material to produce a silicon dioxide bound fraction and a soluble fraction; and

(8) isolating purified nucleic acids and/or oligonucleotides from said soluble fraction, and

B' (b) transfecting said cells with said purified nucleic acids and/or oligonucleotides.

27. (New) A method of producing a purified nucleic acid and/or oligonucleotide composition suitable for use in the treatment of genetic disorders, said method comprising isolating and purifying nucleic acids and/or oligonucleotides from a biological sample by the steps of:

C' cont' (a) disrupting the biological sample;

(b) removing protein and insoluble components from said disrupted sample, leaving a residue;

(c) adding an aqueous solution of potassium acetate to said residue and subsequently separating non-soluble components from the aqueous solution;

(d) mixing said aqueous solution of potassium acetate from which non-soluble components have been separated with an alcoholic solution containing a detergent;

(e) incubating said mixed solution;

(f) obtaining the supernatant of said mixed solution;

(g) contacting and incubating said supernatant with a silicon dioxide support material to produce a silicon dioxide bound fraction and a soluble fraction; and

(h) isolating purified nucleic acids and/or oligonucleotides from said soluble fraction.

28. (New) A kit comprising:

(a) at least one solution suitable for the disruption of a biological sample;

(b) an aqueous potassium acetate solution;

(c) an alcohol solution optionally also comprising a detergent; and

(d) a silicon dioxide support material.

29. (New) The kit as claimed in claim 28, comprising:

(a) a solution suitable for alkaline lysis of biological sample material;

(b) a salt solution containing 1 M to 6 M potassium acetate;

(c) an alcohol solution containing 0.5 % to 10% (w/v) SDS in 100 % strength isopropanol; and

(d) a silicon dioxide support material.

30. (New) The kit as claimed in claim 28, wherein said silicon dioxide support material is a suspension of silicon dioxide or silica gel.